

**MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT  
TITLE V OPERATING PERMIT TV47-01  
EVALUATION REPORT**

24580 Silver Cloud Court  
Monterey, CA 93940  
Telephone: (831) 647-9411

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APPLICATION RECEIVED FROM:

Chevron U.S.A., Inc.  
San Joaquin Valley Business Unit  
P.O. Box 1392  
Bakersfield, CA 93302

PLANT SITE LOCATION:


Sargent Canyon Road  
San Ardo, CA 93450

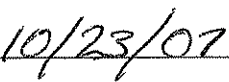
APPLICATION PROCESSED BY:

Mike Sewell, Air Quality Engineer

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APPROVED FOR RELEASE BY:

  
\_\_\_\_\_  
Lance Ericksen  
Engineering Division Manager

  
\_\_\_\_\_  
Date

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Dated: October 23, 2007

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Nature of Business:      Crude Oil Production

SIC Codes:      1311 - Crude Petroleum and Natural Gas

**RESPONSIBLE OFFICIAL:**

Name: Mr. Warner M. Williams  
Title: Vice President  
Phone: (661) 654-7700

**FACILITY CONTACT PERSON:**

Name: Ms. Betty Coppersmith  
Title: Air Specialist  
Phone: (661) 654-7146

**ALTERNATIVE RESPONSIBLE OFFICIALS:**

Name: Mr. Michael W. Casey  
Title: General Manager, Operations

Name: Mr. Paul Vita  
Title: Western Central California Area Operations Manager

Name: Mr. Michael B. Jennings  
Title: Assistant Secretary

Name: Mr. Stephen West  
Title: Operations Supervisor

## TABLE OF CONTENTS

PROJECT DESCRIPTION .....	3
FACILITY DESCRIPTION .....	3
EQUIPMENT DESCRIPTION .....	3
APPLICABLE FEDERAL REQUIREMENTS .....	4
COMPLIANCE DETERMINATION FOR APPLICABLE FEDERAL REQUIREMENTS .....	5
THE FOLLOWING WILL BE INCLUDED ON THE TITLE V PERMIT: .....	11
FEDERALLY ENFORCEABLE EMISSION LIMITS AND STANDARDS .....	11
TESTING REQUIREMENTS AND PROCEDURES .....	14
MONITORING AND RECORD KEEPING REQUIREMENTS .....	15
REPORTING REQUIREMENTS .....	17
GENERAL CONDITIONS .....	18

## PROJECT DESCRIPTION

The facilities' existing Title V permit (TV29-01G) expires on December 31, 2007. This application is for renewal of this Title V Permit on the required five-year renewal cycle.

## FACILITY DESCRIPTION

Chevron U.S.A., Inc. operates a crude oil production facility in the San Ardo Field in Southern Monterey County. Chevron's operation includes both primary and tertiary crude oil production wells.

These production wells are supported by several categories of equipment necessary to recover heavy crude oil from the production zones. These categories include: 1) steam generators; 2) produced crude oil storage tanks; 3) oil and water separation equipment including heater treaters, free water knockout vessels, and produced water tanks; 4) well head casing vent vapor collection system and desulfurization plant; 5) waste water treatment plant including gas flotation units and skim tanks; and 6) oil drilling/workover rigs.

Chevron's facility is considered a federal Major Source and subject to the Title V permitting program due to the potential to emit oxides of nitrogen ( $\text{NO}_x$ ) and sulfur dioxide ( $\text{SO}_2$ ).

## EQUIPMENT DESCRIPTION

### OIL PRODUCTION FACILITY CONSISTING OF:

1. Oil Production Wells.
2. Steam Injection Wells.
3. Drilling Rigs With Diesel Fired Internal Combustion Engines.
4. Forty-Six Steam Generators As Follows:
  - A) Nine Steam Generators (Identification Numbers 126-20, R3-1-20, R3-6-20, North 20-1, North 20-2, North 20-3, SOW 1, Westside 20-1 And Westside 20-2), Fired Only By Natural Gas, Propane, Butane, Liquefied Petroleum Gas, Or Any Combination Thereof, Maximum Rated Heat Input 25 MMBtu/Hr.
  - B) Eight Steam Generators (Identification Numbers South 50-1 Through South 50-8), Vented To A Ducon Venturi Scrubber System And Stack Via Common Exhaust Duct, Crude Oil Or Natural Gas Fired, Maximum Rated Heat Input 60 MMBtu/Hr.
  - C) Four Steam Generators (Identification Numbers Orradre Steam Generators ORR-1-50, ORR-3-50, ORR-5-50, and ORR-7-50), Vented To An AirPol Scrubber System And Stack Via Common Exhaust Duct, Natural Gas Fired, Maximum Rated Heat Input 62.5 MMBtu/Hr.

- D) Six Steam Generators With Wet Scrubber Systems (Identification Numbers Aurignac North 50-4 Through Aurignac North 50-9), Crude Oil Or Natural Gas Fired, Maximum Rated Heat Input 62.5 MMBtu/Hr.
  - E) Two Steam Generators With Wet Scrubber Systems (Identification Numbers 121-50 And South 50-9), Fired By Crude Oil, Scrubbed Produced Gas, Natural Gas, Propane, Butane, Liquefied Petroleum Gas, Or Any Combination Thereof, Maximum Rated Heat Input 62.5 MMBtu/Hr.
  - F) Sixteen Steam Generators (Identification Numbers North 50-1 Through North 50-9, North 50-11, And Rosenberg 5101 Through 5106), Fired By Scrubbed Produced Gas, Natural Gas, Propane, Butane, Liquefied Petroleum Gas, Or Any Combination Thereof, Maximum Rated Heat Input 62.5 MMBtu/Hr.
  - G) One Steam Generator (Identification Number R1-1-20), Fired By Scrubbed Produced Gas, Natural Gas, Or A Combination Thereof, Maximum Rated Heat Input 25 MMBtu/Hr.
- 5. Casing Gas Gathering Systems And Gas Scrubbing Plant, With Scrubbed Gas To Specified Steam Generators (3F Or 3G Above) And/Or Waste Gas Thermal Oxidizer With Steam Generator, Maximum Rated Heat Input 62.5 MMBtu/Hr.
  - 6. Six Crude Oil Heater Treaters (Central Oil Treating Facility Heater Treater Number 1, 2, 3, 4, 5 & 6), Natural Gas Fired, Maximum Rated Heat Input 7 MMBtu/Hr.
  - 7. Oil Treating Facilities With Crude Oil Loadout, All Tanks And Loading Racks Vented To Vapor Recovery System, Vapor Recovery Systems Discharging Waste Gases To Gas Scrubbing Plant Via Waste Water Treatment Facility Or Via Casing Gas Gathering Systems.
  - 8. Waste Water Treatment Facility With Vapor Recovery System, Discharging Waste Gases to Gas Scrubbing Plant Via Casing Gas Gathering System.
  - 9. Ancillary Equipment:
    - Boiler, Natural Gas Fired, Maximum Rated Heat Input 6 MMBtu/Hr.
    - Gasoline Storage Tank.
    - Sandblasting Equipment.
    - Well Test Station Drain Tanks.

#### **APPLICABLE FEDERAL REQUIREMENTS**

Rule 200 - Permits Required  
Rule 201 - Sources Not Requiring Permits  
Rule 207 - Review of New or Modified Sources  
Rule 213 - Continuous Emissions Monitors  
Rule 214 - Breakdown Condition  
Rule 218 - Title V: Federal Operating Permits  
Rule 300 - District Fees (Emission Statement - Section 4.4)  
Rule 308 - Title V: Federal Operating Permit Fees  
Rule 400 - Visible Emissions  
Rule 403 - Particulate Matter  
Rule 404 - Sulfur Compounds and Nitrogen Oxides  
Rule 412 - Sulfur Content of Fuels  
Rule 413 - Removal of Sulfur Compounds  
Rule 416 - Solvents  
Rule 417 - Storage of Organic Liquids  
Rule 418 - Transfer of Gasoline into Stationary Storage Containers  
Rule 420 - Effluent Oil Water Separators  
Rule 426 - Architectural Coatings  
Rule 427 - Steam Drive Crude Oil Production Wells  
Rule 433 - Organic Solvent Cleaning  
40 CFR Part 60, Subpart A - New Source Performance Standards, General Provisions  
40 CFR Part 60, Subpart Dc - Performance Standards Industrial-Commercial-Institutional Steam Generating Units  
40 CFR Part 61, Subpart M - National Emission Standard for Asbestos  
40 CFR Part 64 - Compliance Assurance Monitoring  
40 CFR Part 68 - Risk Management Planning: Accidental Release Prevention (Section 112r)  
40 CFR Part 82 - Protection of Stratospheric Ozone

## COMPLIANCE DETERMINATION FOR APPLICABLE FEDERAL REQUIREMENTS

### Rule 200 - Permits Required

This facility has historically complied with the requirements of this rule and continued compliance is expected.

### Rule 201 - Sources Not Requiring Permits

This rule identifies which equipment is exempt from District permitting requirements.

### Rule 207 - Review of New or Modified Sources

This facility and some of the equipment predate the NSR requirements. Newer equipment or equipment modifications have undergone District review which required the use of BACT, but these permit actions have not triggered the NSR offset requirements which include the public noticing requirements. Additionally, the source has voluntarily installed low-NO<sub>x</sub> burners on a number of their steam generators. Therefore, at this time there are no federally enforceable conditions imposed by District Rule 207 on this source.

### Rule 214 - Breakdown Condition

This rule specifies conditions and procedures for breakdowns. A condition which incorporates these requirements

will be included on the permit.

Rule 218 - Title V: Federal Operating Permits

This is the implementing regulation by which the District issues the federal Operating Permits. All requirements imposed by this rule will be included on the Title V permit.

Rule 300 (Emission Statement - Section 4.4)

Historically, the facility has been in compliance with the requirement to submit an *Emission Statement*. A condition will be included on the permit to ensure continued compliance.

Rule 308 - Title V: Federal Operating Permit Fees

This is the District's fee rule for Title V. Appropriate conditions will be included on the Title V permit to ensure compliance with the fee provisions contained in this rule.

Rule 400 - Visible Emissions

This rule is applicable to the emissions from the facility. Appropriate conditions will be included on the permit to ensure compliance with this rule.

Rule 403 - Particulate Matter

The 0.15 grains per dry cubic foot emission standard is applicable to all stationary fuel fired equipment at the facility.

Steam Generators (Fired On Fuels Other Than Crude Oil) - Based upon the requirements of Rule 403, the volumetric flow rate of 8,740 SDCF/MMBtu for gaseous fuel combustion would establish an emission limit of 11.7 lbs PM<sub>10</sub>/hr [(62.5 MMBtu/Hr)\*(8,740 SDCF/MMBtu)\*(0.15 grains/SDCF)\*(1 lb/7000 grains)= 11.7 lbs PM<sub>10</sub>/hr]. AP-42 establishes an emission factor of 7.6 lbs PM<sub>10</sub>/MMCF (from Table 1.4-2 dated 7/98) which would equate to a hourly emission of 0.45 lbs PM<sub>10</sub>/hr [(62.5 MMBtu/hr)(1 MMCF/1050 MMBtu)(7.6 lbs PM<sub>10</sub>/MMCF) = 0.45 lbs PM<sub>10</sub>/hr]. This calculated value is well below the Rule 403 grain loading standard. Therefore, no monitoring/testing or record keeping will be included on the permit to show compliance with the grain loading requirement for this equipment.

Steam Generators With Scrubber Systems - Based upon the requirements of Rule 403, the volumetric flow rate of 9,220 DSCF/MMBtu firing fuel oil would establish an emission limit of 13.3 lbs PM<sub>10</sub>/hr [(62.5 MMBtu/Hr)\*(9,220 SDCF/MMBtu)\*(0.15 grains/SDCF)\*(1 lb/7000 grains)= 13.3 lbs PM<sub>10</sub>/hr]. AP-42 establishes an emission factor of 11.5 lbs PM<sub>10</sub>/Kgal (from Tables 1.3-1 & 1.3-2 dated 9/98) which would equate to a hourly emission of 20.1 lbs PM<sub>10</sub>/hr [(62.5 MMBtu/hr)(6.53 gals/MMBtu)(11.5 lbs PM<sub>10</sub>/Kgal)(Kgal/1000 gal) = 4.7 lbs PM<sub>10</sub>/hr] without the use of the scrubber. Assuming that the scrubber has a nominal efficiency of 90%, this would equate to an hourly emission rate of 0.5 lbs PM<sub>10</sub>/hr [(4.7 lbs PM<sub>10</sub>/hr)(1-.9) = 0.5 lbs PM<sub>10</sub>/hr]. This calculated value is well below the Rule 403 grain loading standard. Therefore, no monitoring/testing or record keeping will be included on the permit to show compliance with grain loading requirement for this equipment.

Crude Oil Heater Treaters - Based upon the requirements of Rule 403, the volumetric flow rate of 8,740 SDCF/MMBtu firing natural gas would establish an emission limit of 1.3 lbs PM<sub>10</sub>/hr [(7 MMBtu/Hr)\*(8,740 SDCF/MMBtu)\*(0.15 grains/SDCF)\*(1 lb/7000 grains)) = 1.3 lbs PM<sub>10</sub>/hr]. AP-42 establishes an emission factor of

7.6 lbs PM<sub>10</sub>/MMCF NG (from Table 1.4-2, dated 7/98) which would equate to a hourly emissions of 0.05 lbs PM<sub>10</sub>/hr while firing on NG [(7 MMBtu/hr)(1 MMCF/1050 MMBtu)(7.6 lbs PM<sub>10</sub>/MMCF) = 0.05 lbs PM<sub>10</sub>/hr]. This calculated value is well below the Rule 403 grain loading requirement. Therefore, no monitoring/testing or record keeping will be included on the permit to show compliance with grain loading requirement for this equipment.

#### Rule 404 - Sulfur Compounds and Nitrogen Oxides

This rule is applicable to the emissions from the facility.

Diesel Fired Drilling Rigs - Compliance with the 0.2% by volume (2000 ppmv) limit for SO<sub>2</sub> is assumed due to the following calculation based upon the AP-42 emission factor of 0.29 lbs SO<sub>2</sub>/MMBtu heat input. Utilizing this emission factor and the F factor from EPA method 19, the SO<sub>2</sub> concentration for a diesel engine would equate to 186.6 ppmv [(0.29 lbs SO<sub>2</sub>/MMBtu)\*((MM lbmoles air)/(64.1 lbmole SO<sub>2</sub>))\*((379 Ft<sup>3</sup> Air)/(lbmole air))/((9,190 SDCFM)) = 186.6 ppmv] This value is well below the 2000 ppmv SO<sub>2</sub> allowed in this rule. Therefore, no monitoring/testing or record keeping will be included on the permit to show compliance with the SO<sub>2</sub> limit for this equipment.

Compliance with the NO<sub>x</sub> limit of 140 lb/hr from the diesel drilling rigs is assumed due to the following emission calculation based upon the AP-42 emission factor of 0.031 Lbs NO<sub>x</sub>/Hp-hr. An emission rate of 140 lbs/hr would equate to an engine of 4516 Hp [(140 lbs/hr)/(0.031 lbs NO<sub>x</sub>/Hp-hr) = 4516 Hp]. The engines on the drill rigs are all below 1,200 hp and are not capable of exceeding the 140 lb hour NO<sub>x</sub> limit. Therefore, no monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 140 lb/hr NO<sub>x</sub> limit for this equipment.

Steam Generators (Fired On Fuels Other Than Crude Oil) - Compliance with the 0.2% by volume (2000 ppmv) limit for SO<sub>2</sub> is assured due to these units being fired on gaseous fuels. Therefore, no monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 0.2% by volume SO<sub>2</sub> limit for this equipment.

Compliance with the 140 lb/hr NO<sub>x</sub> limit from gaseous fuels is assumed due to the following emission calculations based upon the AP-42 emission factor of 140 lbs NO<sub>x</sub>/MMCF NG burned (from AP-42 Table 1.4-1 dated 7/98). The steam generators are rated at 62.5 MMBtu/Hr which equates to 8.3 lbs/hr [(62.5 MMBtu/Hr)(1 MMCF/1050 MMBtu)(140 lbs/MMCF) = 8.3 lbs NO<sub>x</sub>/Hr]. The steam generators are not capable of exceeding the 140 lb hour NO<sub>x</sub> limit. Therefore, no monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 140 lb/hr NO<sub>x</sub> limit for this equipment.

Steam Generators With Scrubber Systems - Compliance with the 0.2% by volume (2000 ppmv) limit for SO<sub>2</sub> is assumed when combusting fuels other than crude oil (as above), and historical testing has shown compliance with this limit when combusting crude oil. The permit will require testing when combusting crude oil to verify compliance with the 413 limit which is more restrictive than this 2000 ppm limit. 2000 ppmv is 194.5 lbs SO<sub>2</sub>/hr [((2000 lbmole SO<sub>2</sub>)/MM lbmoles air))\*((64 lbs SO<sub>2</sub>)/(lb mole SO<sub>2</sub>))\*((lbmole air)/(379 ft<sup>3</sup>))\*((60\*9,600 SDCFM)/(Hr)) = 194.5 lbs/hr], which equates to 3.2 lbs SO<sub>2</sub>/MMBtu [(194.5 lbs SO<sub>2</sub>/Hr)/(60.0 MMBtu/Hr) = 3.2 lbs SO<sub>2</sub>/MMBtu]. This value exceeds the limit established by Rule 413, therefore the SO<sub>2</sub> concentration limit from this rule will be subsumed under the Rule 413 limit.

Compliance with the 140 lb/hr limit is assumed due to the following emission calculations. AP-42 establishes an emission factor of 55 lbs NO<sub>x</sub>/Kgal while firing fuel oil (from AP-42 Table 1.3-1, dated 7/98) which would equate to hourly emissions of 22.4 lbs NO<sub>x</sub>/hr [(62.5 MMBtu/hr)\*(6.53 gals/MMBtu)\*(55 lbs NO<sub>x</sub>/Kgal)\*(Kgal/1000 gal) = 22.4 lbs NO<sub>x</sub>/hr]. The steam generators are not capable of exceeding the 140 lb/hr NO<sub>x</sub> limit. Therefore, no



monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 140 lb/hr NO<sub>x</sub> limit for this equipment.

Crude Oil Heater Treaters - Compliance with the 0.2% by volume (2000 ppmv) limit for SO<sub>2</sub> is assumed while firing on natural gas. Therefore, no monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 0.2% by volume SO<sub>2</sub> limit for this equipment.

Compliance with the 140 lb/hr NO<sub>x</sub> limit is assumed due to the following emission calculations. AP-42 establishes an emission factor of 100 lbs NO<sub>x</sub>/MMCF of natural gas (from AP-42 Table 1.4-1, dated 7/98) which would equate to a hourly emissions of 0.67 lbs NO<sub>x</sub>/hr while firing on NG [(7 MMBtu/hr)(1 MMCF/1050 MMBtu)(100 lbs NO<sub>x</sub>/MMCF) = 0.67 lbs NO<sub>x</sub>/hr]. The heater treaters are not capable of exceeding the 140 lb hour NO<sub>x</sub> limit. Therefore, no monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 140 lb/hr NO<sub>x</sub> limit for this equipment

Steam Generators, Natural Gas Fired - Compliance with the 0.2% by volume (2000 ppmv) limit for SO<sub>2</sub> is assured due to these units being fired exclusively on natural gas. Therefore, no monitoring/testing or record keeping requirements will be included on the permit to show compliance with the 0.2% by volume SO<sub>2</sub> limit for this equipment.

#### Rule 412 - Sulfur Content of Fuels

This rule which requires that the sulfur content of fuels combusted be less than 50 grains per 100 cubic feet for gaseous fuel and less than 0.5% by weight for liquid or solid fuel is applicable to this facility. Combustion of natural gas and scrubbed produced gas assures compliance with the 50 grain limit while backup fuels are propane, butane, liquefied petroleum gas all with sulfur contents less than the 50 grain limit or below the 0.5% by weight. Diesel fuel combusted in the internal combustion engines is in compliance with the less than 0.5% by weight sulfur content as required by state law.

Note that the combustion of crude oil is not subject to the requirements of this rule, as it is exempted from the requirements of Rule 412 by Rule 413 as discussed below.

#### Rule 413 - Removal of Sulfur Compounds

This rule provides that Rule 412 shall not apply where sulfur compounds are removed from combustion products, or a mixture of fuels are used such that the emission of sulfur compounds to the atmosphere are no greater than the emission if the source was combusting a liquid or solid fuel with a sulfur content less than 0.5% by weight.

The permit will require testing to verify that the combustion of crude oil in the steam generators with scrubbers is in compliance with Rule 413 requirements, and therefore not subject to the requirements of Rule 412. The emission limit that will be included on the permit will be 0.526 lbs SO<sub>2</sub>/MMBtu [(0.5 lb Sulfur/100 lbs fuel)(1.0 lb fuel/19,000 Btu)(10<sup>6</sup> BTU/MMBtu)(64 lbs SO<sub>2</sub>/32 lbs Sulfur) = 0.526 lbs SO<sub>2</sub>/MMBtu].

#### Rule 416 - Solvents

The facility is subject to the requirements of this rule from non-permitted activities. Small quantities of organic solvents are utilized in the day-to-day operation of the oil field, and records have been kept to verify compliance with the requirements of this rule. Conditions will be included on the permit specifying the rule limits and record keeping requirement to verify compliance.

Rule 417 - Storage of Organic Liquids

This rule requires vapor loss control devices on organic storage tanks if the organic liquid stored has a true vapor pressure of 1.5 psi at actual storage conditions.

The gasoline dispensing facility and the waste water facility are not subject to the requirements of Rule 417 based upon section 1. The gasoline storage tank has a capacity of 9,500 gallons, while Rule 417 is only applicable to tanks greater than 150,000 liters (39,630 gallons). The actual vapor pressure of the stored liquid in waste water tanks is 0.20 psia, well below the 1.5 psia for triggering Rule 417 requirements.

The oil treating facility is subject to the requirements of this rule. The tanks at the oil treating facility are vented to the vapor recovery system which meets the minimum destruction efficiency of 95% required by section 1.3 of the rule.

Appropriate conditions will be included on the permit to ensure compliance with the provisions of this rule.

Rule 418 - Transfer of Gasoline into Stationary Storage Containers

This rule requires that the gasoline storage tank have a submerged fill pipe and that Phase I Vapor recovery be utilized when filling the tank. The rule also requires specific record keeping regarding the quantity of fuel delivered to the facility. The facility is in compliance with the requirements of this rule.

Appropriate conditions will be included on the permit to ensure compliance with the requirements of this rule.

Rule 420 - Effluent Oil Water Separators

This rule requires vapor loss control devices on any vessel or device operated to recover oil from effluent water where 200+ gallons a day of petroleum products are recovered if the Reid vapor pressure is 0.5 psi or greater. The Reid vapor pressure of the heavy crude processed in the effluent oil water separators is 0.22 psi. Therefore, the effluent oil water separators at this facility are not subject to the requirements of rule 420.

Appropriate conditions will be included on the permit to ensure compliance with the provisions of this rule if organic materials are process that have a Reid vapor pressure equal or greater than 0.5 psi.

Rule 426 - Architectural Coatings

This rule is applicable to all applications of architectural coatings and limits the VOC content of these coatings. The facility is in compliance with the requirements of this rule.

An appropriate condition will be included on the permit to ensure compliance with the requirements of this rule.

Rule 427 - Steam Drive Crude Oil Production Wells

The facility is in compliance with the requirements of this rule by collecting the gas from the steam enhanced production wells and routing it to the vapor recovery system. The gas is then processed by the vapor recovery system then routed to be burned in one of the steam generators.

Appropriate conditions will be included on the permit to ensure compliance with the updated provisions of this rule.

Rule 433 - Organic Solvent Cleaning

This rule contains specific operational and record keeping requirements for solvent cleaning and degreasing

operations.

Appropriate conditions will be included on the permit to ensure compliance with the provisions of this rule.

40 CFR Part 60, Subpart A - New Source Performance Standards, General Provisions

This facility is not subject to the requirements of this part, as all equipment at the facility predate the applicable sections of the New Source Performance Standards, and therefore are not considered "affected facilities" which would be subject to the requirements of this part.

40 CFR Part 60, Subpart Dc - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

All steam generating units at this facility predate this requirement.

40 CFR Part 61, Subpart M - National Emission Standard for Asbestos

This facility on an as needed basis is subject to Section 61.145 through 61.147 - standards for the demolition and renovation of asbestos. Historically, the facility has been in compliance with the requirements of these standards. An appropriate condition will be included on the permit to ensure compliance with these requirements.

40 CFR Part 64 - Compliance Assurance Monitoring

The steam generators firing crude oil and the gas scrubbing plant are subject to the requirements of this part.

The 16 steam generators capable of firing crude oil are subject due to their potential to emit SO<sub>x</sub> and due to the fact that the units have scrubbers to control SO<sub>x</sub>. Specifics on CAM for these units is as follows:

The steam generators identified in Equipment Description 4B share a common post-incineration scrubber operation for which compliance with the SO<sub>x</sub> emission limits will be indirectly monitored by measuring the water recycle rate and the pH of the scrubber water. Previous source tests and operations data show that a pH between 7.0 and 7.5 and a minimum water recycle rate of 800 gpm verify compliance with the permitted SO<sub>x</sub> limits. At least one data point for each the pH and the water recycle rate will be collected once a day. Methodology for monitoring will be a pH meter and a flow measuring device.

The steam generators identified in Equipment Description 4D have post-incineration scrubber operations for which compliance with the SO<sub>x</sub> emission limits will be indirectly monitored by measuring the water recycle rate and the pH of the scrubber water. Previous source tests and operations data show that a minimum pH of 6.7 and a minimum water recycle rate of 275 gpm verify compliance with the permitted SO<sub>x</sub> limits. At least one data point for each the pH and the water recycle rate will be collected once a day. Methodology for monitoring will be a pH meter and a flow measuring device.

The steam generators identified in Equipment Description 4E have post-incineration scrubber operations for which compliance with the SO<sub>x</sub> emission limits will be indirectly monitored by measuring the water recycle rate and the pH of the scrubber water. Previous source tests and operations data show that a minimum pH of 6.0 and a minimum water recycle rate of 275 gpm verify compliance with the permitted SO<sub>x</sub> limits. At least one data point for each the pH and the water recycle rate will be collected once a day. Methodology for monitoring will be a pH meter and a flow measuring device.

Chevron U.S.A. has proposed that gas flow and scrubber effluent H<sub>2</sub>S concentrations will be monitored at the gas

scrubbing plant. Excursions from the monitoring parameters are defined as a gas flow of greater than 11,500 MCFD and greater than 0.0164 pounds of H<sub>2</sub>S per 1,000 ft<sup>3</sup> of gas. At least one data point for each the gas throughput and the H<sub>2</sub>S concentration will be collected once a day. Methodology for monitoring will be a H<sub>2</sub>S meter and a flow measuring device.

40 CFR Part 68 - Risk Management Planning: Accidental Release Prevention (Section 112r)

This facility is not subject to the requirements of this part. An appropriate condition will be included on the permit to ensure compliance with the Part 68 requirements if the facility were to become subject.

40 CFR Part 82 - Protection of Stratospheric Ozone

This facility is in compliance with the requirements of this part. An appropriate condition will be included on the permit to ensure compliance with these requirements.

**THE FOLLOWING WILL BE INCLUDED ON THE TITLE V PERMIT:**

**FEDERALLY ENFORCEABLE EMISSION LIMITS AND STANDARDS**

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity. [District Rule 400]
2. Particulate matter shall not exceed 0.15 grains per standard dry cubic foot in any exhaust stream. [District Rule 403]
3. Sulfur compounds calculated as sulfur dioxide (SO<sub>2</sub>) shall not exceed 0.2 percent by volume in any exhaust stream. [District Rule 404]
4. Oxides of Nitrogen, calculated as nitrogen dioxide (NO<sub>2</sub>), shall not exceed 140 lbs/hr in any exhaust stream. [District Rule 404]
5. The sulfur content of any fuel oil used at the facility shall not exceed 0.5 percent by weight. [District Rule 412]

This condition does not apply to the combustion of crude oil in steam generators with scrubber systems, provided that the scrubber system is in full operation. [District Rule 413]

6. The sulfur content of any gaseous fuel used at the facility shall not contain sulfur compounds, calculated as hydrogen sulfide at standard conditions, in excess of 50 grains per 100 cubic feet. [District Rule 412]

7. Oxides of Sulfur, calculated as sulfur dioxide ( $\text{SO}_2$ ), from the steam generators with scrubber systems while firing crude oil shall not exceed 0.526 lbs/MMBtu. [District Rule 413; District Rule 404 0.2% by volume sulfur limit]
8. No more than 40 pounds per day of Volatile Organic Compounds shall be discharged from any permit unit using or applying any solvent. [District Rule 416 Adopted 1/17/01]
9. Chevron U.S.A., Inc. shall operate the storage tank at the gasoline dispensing facility with a permanent submerged fill pipe. [District Rule 418]
10. Chevron U.S.A., Inc. shall limit emissions of volatile organic compounds by the use of architectural coatings which comply with the requirements of District Rule 426. [District Rule 426]
11. Chevron U.S.A., Inc. shall not operate any existing steam drive crude oil production well unless volatile organic compound emissions from the wellhead annulus valve are reduced by at least 98 percent by weight. [District Rule 427]
12. Any new steam drive oil production well shall meet the requirements of condition number 11 within four months from the date that the well is defined as a steam drive well. [District Rule 427]
13. Chevron U.S.A., Inc. shall install and maintain all piping, valves, fittings, and equipment that are a part of the wellhead annulus valve and hydrocarbon control system for any steam drive crude oil well in a no-leak condition as further provided and described in District Rule 427. A leak is defined as an emission of gaseous organic compounds which causes an appropriate analyzer sampling one centimeter from a source to register as high or higher than it would register if sampling a gas composed of 15,000 ppm methane in air. [District Rule 427]
14. Chevron U.S.A., Inc. shall submit an Operator Management Plan to the Air Pollution Control Officer. This plan shall describe the procedures which Chevron U.S.A., Inc. intends to follow to comply with the provisions of Rule 427 and must include at least the following [District Rule 427]:
  - 1) detailed schedule of inspections, which provides for inspection of each affected component at least once per 12 month period, except that components with moving parts, including periodically manipulated valves, shall be inspected at least quarterly. The schedule shall indicate estimated inspection periods and frequency;
  - 2) identification of manipulated valves and components with moving parts, which will be inspected quarterly;
  - 3) repair procedures following leak detection;
  - 4) identification of critical process units which cannot be immediately shut down for repair of leaks;
  - 5) identification of any hazard(s) which might affect the safety of inspectors carrying out the

provisions of Rule 427; and

- 6) identification of the resource commitment to the program to implement the Operator Management Plan.

Any modifications to an existing Operator Management Plan relating to changes in inspection or repair procedures must be submitted for, and receive, approval of the Air Pollution Control Officer before they are implemented.

15. Chevron U.S.A., Inc. shall repair leaks on all piping, valves, fittings, and equipment that are a part of the wellhead annulus valve and hydrocarbon control system for any steam drive crude oil well within the following time frames [District Rule 427 Adopted 12/19/01]:
  - 1) Leaks exceeding 75,000 ppm shall be repaired to a leak-free condition within 15 working days, with monitoring with an appropriate analyzer to verify the leak-free condition as soon as practicable, but not later than 1 calendar month after the date on which the component is repaired.
  - 2) Leaks exceeding 15,000 ppm shall be repaired to a leak-free condition within 20 working days, with monitoring with an appropriate analyzer to verify the leak-free condition as soon as practicable, but not later than 1 calendar month after the date on which the component is repaired.

The Air Pollution Control Officer may grant a 10-day extension to the above repair time frames if the operator demonstrates an adequate necessity for the delay and that sufficient actions will be taken to correct the leak within this time period.

16. The provisions of condition number 15 do not apply to a leaking component which is an essential part of a critical process unit identified in the approved Operator Management Plan, in which case repair shall be accomplished during the next shutdown or process turnaround of the critical process unit, but in no case more than three months from the date of detection. [District Rule 427]
17. No more than 2 percent of the total number of steam drive crude oil production wells may contain an open ended line. [District Rule 427 Adopted 12/19/01]
18. Chevron U.S.A., Inc. shall limit emissions of volatile organic compounds during solvent cleaning and degreasing operations pursuant to the requirements of District Rule 433. [District Rule 433]
19. Chevron U.S.A., Inc. shall comply with the requirements of Sections 61.145 through 61.147 of the National Emission Standard for Asbestos for all demolition and renovation projects. [40 CFR Part 61, Subpart M]
20. Upon detection of an excursion as defined in condition 37, Chevron U.S.A., Inc. shall restore the emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR Part 64]
21. AERA Energy LLC shall submit a Compliance Assurance Monitoring Quality Improvement Plan (QIP) to

the District as specified in 40 CFR §64.8 if the accumulation of excursions monitored under condition 37 exceed 5 percent of the pollutant-specific emissions unit's operating time for a reporting period. [40 CFR Part 64]

22. Should the facility, as defined in 40 CFR §68.3 become subject to Part 68, then Chevron U.S.A., Inc. shall submit a risk management plan (RMP) by the date specified in 40 CFR §68.10. Once subject to Part 68, Chevron U.S.A., Inc. shall certify compliance with these requirements as part of the annual compliance certification required by 40 CFR Part 70 and this permit. [40 CFR Part 68]
23. Chevron U.S.A., Inc. shall comply with the requirements of 40 CFR Part 82 - Protection of Stratospheric Ozone. [40 CFR Part 82]

#### TESTING REQUIREMENTS AND PROCEDURES

24. No testing is specified for the generic (Rule 400) opacity requirement from condition number 1 while firing on gaseous fuels. When a specific unit has been fired with crude oil continuously for a period of 120 hours, Chevron U.S.A., Inc. shall conduct testing in accordance with the methodology contained in EPA Method 9. The testing shall occur at fourteen day intervals after the initial 120 hours. The averaging/aggregating period contained in District Rule 400 shall be used to verify compliance with condition number 1. [District Rule 218]
25. No testing is specified for the (Rule 403) particulate matter emission standard from condition number 2. The fuel burning equipment is assumed to be in compliance with the particulate matter emission standard based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number 2, Chevron U.S.A., Inc. should conduct testing in accordance with the methodology contained in EPA Method 5. [District Rule 218]
26. No testing is specified for the (Rule 404) sulfur concentration limit in condition number 3. The fuel burning equipment is assumed to be in compliance with this sulfur concentration limit based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number 3, Chevron U.S.A., Inc. should conduct testing in accordance with the methodology contained in EPA Method 6 or CARB Method 100. [District Rule 218]
27. No testing is specified for the (Rule 404) NO<sub>x</sub> (oxides of nitrogen) limit in condition number 4. The fuel burning equipment is assumed to be in compliance with this NO<sub>x</sub> limit based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number 4, Chevron U.S.A., Inc. should conduct testing in accordance with the methodology contained in EPA Method 7 or CARB Method 100. [District Rule 218]
28. Testing of all fuel oil delivered to the facility shall be conducted prior to or upon receipt of the fuel, or in lieu of testing a manufacturers certification of the sulfur content of the fuel oil shall be supplied at the time of delivery. Chevron U.S.A., Inc. shall conduct testing in accordance with ASTM D1552, ASTM D1266 or

ASTM D2622 or shall receive certification as to the sulfur content of the fuel from the manufacturer to verify compliance with condition number 5. [District Rule 218]

29. Testing of the casing gas downstream of the Gas Scrubbing Plant shall be conducted on a quarterly basis. Chevron U.S.A., Inc. shall conduct testing in accordance with ASTM D1945, ASTM D3588, GPA 2145, ASTM D3246, ASTM D1137, ASTM 1072 or ASTM D129 to verify compliance with condition number 6. [District Rule 218]
30. Performance tests of each steam generator combusting crude oil shall be conducted quarterly. Chevron U.S.A., Inc. shall conduct performance tests in accordance with EPA Method 20 or CARB Method 100 for SO<sub>2</sub> to verify compliance with condition number 7. [District Rule 218]
31. An annual performance test of all equipment firing produced gas shall be conducted no later than December 31 of each year. Chevron U.S.A., Inc. shall conduct performance tests in accordance with EPA Methods 2, 2A, 2C, or 2D for measuring flow rates and EPA Methods 18, 25, 25A, or 25B for measuring the total gaseous organic concentrations at the inlet and outlet of the combustion device to verify compliance with condition number 11. Chevron U.S.A., Inc. shall furnish the District written results within forty-five (45) days of test completion. If the testing is performed by other than District personnel, a testing protocol shall be submitted to the District no later than 30 days prior to testing, and District notification at least 10 days prior to the actual date of testing shall be provided so that a District observer can be present. [District Rule 218, District Rule 427]
32. Annual leak testing shall be conducted according to the schedule contained in the Operator Management Plan required in condition number 14. Chevron U.S.A., Inc. shall conduct testing in accordance with EPA Method 21 for Determination of Volatile Organic Compound Leaks to verify compliance with condition numbers 13 and 17. [District Rule 427]

#### **MONITORING AND RECORD KEEPING REQUIREMENTS**

33. Should Chevron U.S.A., Inc. use organic solvents subject to Rule 416, records shall be maintained to verify compliance with the usage limit specified in condition 8. [District Rule 416]
34. Chevron U.S.A., Inc. shall maintain records showing the quantity of all gasoline delivered to the gasoline storage tank. [District Rule 418]
35. Chevron U.S.A., Inc. shall maintain a log covering at least the preceding 12-month period of all inspections performed to verify compliance with conditions 14 and 16. The log shall include inspection dates, components found leaking and emission levels (in ppm) and repair and verification dates. [District Rule 427]
36. Chevron U.S.A., Inc. shall maintain a monthly log of the facility-wide total volume of make-up solvent



used, and waste solvent disposed of or recycled, for all cleaning devices using volatile organic compounds for solvent cleaning and degreasing. [District Rule 433]

The record keeping provisions of this condition do not apply to remote reservoir cold cleaners which are serviced by an independent contractor. For such remote cold cleaners, evidence of service shall be maintained.

37. Chevron U.S.A., Inc. shall maintain the following compliance assurance monitoring as specified below [40 CFR Part 64]:

- a) The pH of the scrubber water and the water recycle rate for the Scrubber serving the Steam Generators identified in Equipment Description 4B shall be monitored and recorded at least once per day on any day that the steam generator(s) is/are firing crude oil. Excursions from the monitoring parameters are defined as a pH of less than 7.0 or greater than 7.5 and/or a water recycle rate of less than 800 gpm. A pH meter and a flow measuring device with be utilized for the monitoring.
- b) The pH of the scrubber water and the water recycle rate for each Scrubber serving the Steam Generators identified in Equipment Description 4D shall be monitored and recorded at least once per day on any day that the corresponding Steam Generator is firing crude oil. Excursions from the monitoring parameters are defined as a pH of less than 6.7 and/or a water recycle rate of less than 275 gpm. A pH meter and a flow measuring device with be utilized for the monitoring.
- c) The pH of the scrubber water and the water recycle rate for each Scrubber serving the Steam Generators identified in Equipment Description 4E shall be monitored and recorded at least once per day on any day that the corresponding Steam Generator is firing crude oil. Excursions from the monitoring parameters are defined as a pH of less than 6.0 and/or a water recycle rate of less than 275 gpm. A pH meter and a flow measuring device with be utilized for the monitoring.
- d) The gas flow rate and the scrubber effluent  $H_2S$  concentration of the Gas Scrubbing Plant shall be monitored and recorded at least once per day. Excursions from the monitoring parameters are defined as a gas flow greater than 11,500 MCFD and/or greater than 0.0164 pounds of  $H_2S$  per 1,000  $ft^3$  of gas. Methodology for monitoring will be a  $H_2S$  meter and a flow measuring device.

38. As applicable Chevron U.S.A., Inc. shall maintain the following general records of the monitoring information required by this permit [District Rule 218]:

- A) the date and time of sampling or measurements;
- B) the date(s) analyses were performed;
- C) the company or entity that performed the analyses;
- D) the analytical techniques or methods used;
- E) the results of such analyses;
- F) the operating conditions existing at the time of sampling or measurement; and
- G) the records of quality assurance for continuous monitoring systems (including, but not limited to quality control activities, audits, and calibration drift checks) and source testing methods.

39. Chevron U.S.A., Inc. shall maintain records on the occurrence and duration of any malfunction in the

operation of the equipment under this permit. [District Rule 218]

40. Chevron U.S.A., Inc. shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring, sample collection, measurement, report, and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [District Rule 218]

## REPORTING REQUIREMENTS

41. Chevron U.S.A., Inc. shall report breakdowns which results in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within one hour of the occurrence, this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if Chevron U.S.A. Inc. demonstrates to the APCO's satisfaction that a breakdown condition exists.

The estimated time for repair of the breakdown shall be supplied to the APCO within twenty-four (24) hours of the occurrence and a written report shall be supplied to the APCO within five (5) days after the occurrence has been corrected. This report shall include at a minimum [District Rule 214]:

- A) a statement that the condition or failure has been corrected and the date of correction; and
  - B) a description of the reason(s) for the occurrence; and
  - C) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and
  - D) an estimate of the emissions caused by the condition or failure.
42. Chevron U.S.A., Inc. shall submit an annual report to the District by May 1 of each year which includes a tabulation of the record keeping required under condition number 35 and a schedule of repair for leaking components, and a currently updated version of the Operator Management Plan as required by District Rule 427 and condition 14. [District Rule 427]
43. Chevron U.S.A., Inc. shall submit quarterly reports to the District of all wells connected to a vapor recovery system. [District Rule 427]
44. Chevron U.S.A., Inc. shall submit semiannual monitoring reports to the District, in a District approved format, no later than August 15 for the period of January 1 through June 30 and no later than February 15 for the period of July 1 through December 31. [District Rule 218]

These reports shall include at a minimum:

- A) the time intervals, date and magnitude of excess emissions, nature and cause of the excess (if known), corrective actions and preventative measures adopted; and

- B) the averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard for the pollutant in question; and
  - C) all information pertaining to any monitoring as required by the permit (Conditions 34 - 41); and
  - D) a negative declaration specifying when no excess emissions occurred.
45. Chevron U.S.A., Inc. shall submit an annual compliance certification report to the District and U.S. EPA, in a District approved format, no later than February 15 for the period of January 1 through December 31 of the preceding year. [District Rule 218]

This report shall include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report and shall include at a minimum:

- A) identification of each term or condition of the permit that is the basis of the certification; and
- B) the compliance status; and
- C) whether compliance was continuous or intermittent; and
- D) the method(s) used for determining the compliance status of the source, currently and over the reporting period.

#### GENERAL CONDITIONS

46. Chevron U.S.A., Inc. shall comply with all conditions of this federal operating permit. Any noncompliance with a permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [District Rule 218]
47. In an enforcement action, the fact that Chevron U.S.A., Inc. would have to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit is not a defense. [District Rule 218]
48. This permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by the District. The filing of a request by Chevron U.S.A., Inc. for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 218]
49. This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any

infringement of federal, state, or local laws or regulations. [District Rule 218]

50. Chevron U.S.A., Inc. shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, Chevron U.S.A., Inc. shall also furnish to the District copies of records required to be retained by this permit. [District Rule 218]
51. For applicable requirements that will become effective during the permit term, Chevron U.S.A., Inc. shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement. [District Rule 218]
52. Any document submitted to the District pursuant to this permit shall contain certification by the responsible official of truth, accuracy and completeness. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Chevron U.S.A., Inc. shall promptly, upon discovery, report to the District a material error or omission in these records, reports, plans, or other documents. [District Rule 218]
53. Any violation of any emission standard to which the stationary source is required to conform, as indicated by the records of the monitoring device, shall be reported by Chevron U.S.A., Inc. to the District within 96 hours after such occurrence. The violation report shall include the time intervals, date and magnitude of excess emissions; nature and cause of the excess (if known), corrective actions and preventive measures adopted. [District Rule 218]
54. Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, record keeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with. [District Rule 218]
55. For this federal operating permit to remain valid through the permit term of five years from the date of issuance, Chevron U.S.A., Inc. shall pay an annual emission fee based upon the requirements of District Rule 308. [District Rule 218]
56. Chevron U.S.A., Inc. shall have available at the facility at all times a copy of this federal operating permit. [District Rule 218]
57. For protection from enforcement action based upon an emergency, as defined in District Rule 218, the responsible official for Chevron U.S.A., Inc. shall submit to the District relevant evidence which demonstrates [District Rule 218]:
  - A) an emergency occurred; and
  - B) that Chevron U.S.A., Inc. can identify or is attempting to identify the cause(s) of the emergency; and

- C) that the facility was being properly operated at the time of the emergency; and
- D) that all steps were taken to minimize the emissions resulting from the emergency; and
- E) within two working days of the emergency event, Chevron U.S.A., Inc. provided the District with a description of the emergency and any mitigating or corrective actions taken.

58. Upon presentation of credentials, Chevron U.S.A., Inc. shall allow the District, the ARB, the EPA, or an authorized representative, to perform the following [District Rule 218]:

- A) enter upon the premises where the federal operating permit source is located or in which any records are required to be kept under the terms and conditions of this federal operating permit;
- B) to have access to and copy any records required to be kept under the terms and conditions of this federal operating permit;
- C) to inspect any equipment, operation, or process described or required in this federal operating permit; and,
- D) to sample emissions from the source.

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